

REMARKS

This responds to the Office Action mailed on March 13, 2006.

Claim 24 is amended to correct antecedent issues for claim 25; as a result, claims 1, 3-16, and 18-30 are now pending in this application.

§102 Rejection of the Claims

Claims 1, 3, 4, 20, 21 24 and 25 were rejected under 35 USC § 102(b) as being anticipated by Yamamoto et al. (U.S. 6,058,021). The Applicant respectfully traverses this rejection and requests the Office to consider the following.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” (*Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), M.P.E.P. §2131, 8th Ed., Rev. 4).

Claim 1 requires that the third surface includes “a meniscus that originates substantially above the first die active first surface; and a substantially planar surface that is parallel planar to the first die active first surface”. Yamamoto’s resin film 1 in FIG. 4D does not have this limitation. Rather, Yamamoto’s resin film 1 has a continuous curvilinear surface. Yamamoto therefore does not anticipate claim 1.

Claim 3 depends from claim 1 and therefore also is not anticipated by Yamamoto.

Claim 4 depends from claim 1 and the third surface of Yamamoto is not coplanar with the first die active first surface. Withdrawal of the rejections is respectfully requested.

Regarding claim 20, Yamamoto does not teach or illustrate a mold chase and therefore does not anticipate the claim.

Claim 21 depends from claim 20 and therefore also is not anticipated by Yamamoto.

Regarding claim 24, it was amended to provide antecedent basis in claim 25 for “the meniscus”. Consequently, selected limitations in claim 24 as amended are substantially the same as in claim 1. Because Yamamoto does not anticipate these claims, withdrawal of the rejections is respectfully requested.

Claims 1, 3, 4, 20, 21, 24 and 25 were also rejected under 35 USC § 102(b) as being anticipated by Pennisi et al. (U.S. 5,128,746). The Applicant respectfully traverses this rejection and requests the Office to consider the following.

Claim 1 requires that the third surface includes “a meniscus that originates substantially above the first die active first surface; and a substantially planar surface that is parallel planar to the first die active first surface”. Pennisi’s fluxing material is a “meniscus 260” in FIG. 2 and does not have this limitation. Rather, Pennisi’s meniscus 260 has a continuous curvilinear surface but no substantially planar surface. Pennisi therefore does not anticipate claim 1.

Claim 3 depends from claim 1 and therefore also is not anticipated by Pennisi.

Claim 4 depends from claim 1 and the meniscus surface of Pennisi is not coplanar with the first die active first surface. Withdrawal of the rejections is respectfully requested.

Regarding claim 20, Pennisi does not teach or illustrate a mold chase and therefore does not anticipate the claim.

Claim 21 depends from claim 20 and therefore also is not anticipated by Pennisi.

Regarding claim 24, it was amended to provide antecedent basis in claim 25 for “the meniscus”. Consequently, selected limitations in claim 24 as amended are substantially the same as in claim 1. Because Pennisi does not anticipate these claims, withdrawal of the rejections is respectfully requested.

§103 Rejection of the Claims

Claim 28 was rejected under 35 USC § 103(a) as being unpatentable over Yamamoto et al. Applicant respectfully traverses the rejection and requests the Office to consider the following.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's

disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (M.P.E.P. § 2143 8th Ed, Rev.4).

The Office Action states that claim 28 is a product by process claim. This is incorrect. Claim 28 is a process claim. The Office Action has failed to construe claim 28 with respect to Yamamoto. Therefore, no substantial evidence has been presented to reject this claim and the burden of going forward with such evidence has not been met by the Office. Withdrawal of the rejection is respectfully requested.

Claims 5, 7-13, 22, 23, 26, 27, 29 and 30 were also rejected under 35 USC § 103(a) as being unpatentable over Yamamoto et al. in view of Naka et al. (U.S. 6,727,583). Applicant respectfully traverses the rejection and requests the Office to consider the following.

The Office Action admits that Yamamoto does not disclose “... a second or third die” (Office Action at page 5). But Yamamoto also does not teach the limitation in independent claims 1, 10, 20, and 24 of “a meniscus that originates substantially above the first die active first surface; and a substantially planar surface that is parallel planar to the first die active first surface”. Although Naka et al. may teach a second die, Naka also does not teach or suggest the limitations of the molding compound cap including the third surface as claimed. Because all the claim limitations are not taught in the cited references, withdrawal of the rejections is respectfully requested.

Independent claim 10 includes the limitation

a molding compound cap abutting the first die and including a third surface that originates substantially above the first die active first surface and below the first die backside second surface, and that is substantially parallel planar to the first die backside second surface.

(Claim 10, emphases added). Yamamoto teaches only a continuously curvilinear surface that is part of his resin film 1 in FIG. 4D. Yamamoto does not teach the limitation in claim 10 of “a molding compound cap ... including a third surface ... that is substantially parallel planar to the first die backside second surface”, and although Naka et al. may teach a second die, Naka also does not teach or suggest the limitations of the molding compound cap including the third surface as claimed. Because all the claim limitations are not taught in the cited references,

withdrawal of the rejections is respectfully requested. Withdrawal of the rejection is respectfully requested.

Applicant notes that claims 11-13 depend from claim 10 and therefore Yamamoto and Naka do not teach all the claims limitations. Withdrawal of the rejections is respectfully requested.

Claims 22-23 depend from independent claim 20. Yamamoto does not teach the limitation in claim 20 of “a mold chase capable of causing a molding cap compound ... that is substantially above the die active first surface and below the die backside second surface, and that forms a third surface that is substantially parallel to the die backside second surface”, and although Naka et al. may teach a second die, Naka also does not teach or suggest the limitations of the mold chase for causing the molding compound cap including the third surface as claimed. Because all the claim limitations are not taught in the cited references, withdrawal of the rejections is respectfully requested.

Claims 26, 27, 28, and 30 depend from independent claim 24. Yamamoto does not teach the limitation in claim 24 of “forming a molding cap compound ... third surface that is parallel planar and above the first die active first surface and below the first die backside second surface”, and although Naka et al. may teach a second die, Naka also does not teach or suggest the limitations of forming a molding compound cap third surface as claimed. Because all the claim limitations are not taught in the cited references, withdrawal of the rejections is respectfully requested.

Applicant also notes the Office has characterized claim 30 as a product-by-process claim. This is incorrect. Claim 30 states “process ... wherein forming the molding compound cap is selected from injection molding, *in situ* thermal curing, pick-and-place coupling the molding compound cap with the first die, and combinations thereof.” This is a process claim and the burden with going forward with substantial evidence has not been met by the Office. Withdrawal of the rejection is respectfully requested.

Claims 14-16 were also rejected under 35 USC § 103(a) as being unpatentable over Yamamoto et al. in view of Iwabuchi (U.S. 6,434,017). Applicant respectfully traverses the rejection and requests the Office to consider the following.

Independent claim 14 includes the limitation

a substantially planar surface that is parallel planar to the first die active first surface, and parallel planar located above the first die active first surface at a height that is a fraction of the die height

(Claim 14). Both Yamamoto and Iwabuchi teach only continuously curvilinear surfaces, for Iwabuchi that is part of his “sealing resin 3” (Iwabuchi at column 4, line 11 and at FIG.3), and for Yamamoto for his resin film 1 in FIG. 4D. Because Yamamoto and Iwabuchi do not teach all the limitations of claim 14, alone or in combination, withdrawal of the rejection is respectfully requested. Applicant notes that claims 15-17 depend from claim 14 and therefore all claim limitations are also not taught or suggested, alone or in combination by Yamamoto and Iwabuchi. Withdrawal of the rejections is respectfully requested.

Claims 18 and 19 were also rejected under 35 USC § 103(a) as being unpatentable over Yamamoto et al. in view of Iwabuchi and in further view of Naka et al. Applicant respectfully traverses the rejection and requests the Office to consider the following.

Regarding claims 18 and 19, these claims depend from independent claim 14. As set forth above, Yamamoto, whether alone or in view of Iwabuchi, does not teach the limitation in claim 14, of “a substantially planar surface that is parallel planar to the first die active first surface, and parallel planar located above the first die active first surface at a height that is a fraction of the die height”. Naka adds nothing to remedy this deficiency. Because all the claim limitations are not taught in the cited references, alone or in combination, a *prima facie* case of obviousness has not been established. Withdrawal of the rejection is respectfully requested.

Claim 28 was also rejected under 35 USC § 103(a) as being unpatentable over Pennisi et al. Applicant respectfully traverses the rejection and requests the Office to consider the following.

The Office Action states that claim 28 is a product by process claim. This is incorrect. Claim 28 is a process claim. The Office Action has failed to construe claim 28 with respect to Pennisi. Therefore, no substantial evidence has been presented to reject this claim and the burden of going forward with such evidence has not been met by the Office. Withdrawal of the rejection is respectfully requested.

Claims 5, 7-13, 22, 23, 26, 27, 29 and 30 were also rejected under 35 USC § 103(a) as being unpatentable over Pennisi et al. in view of Naka et al. Applicant respectfully traverses the rejection and requests the Office to consider the following.

The Office Action admits that Pennisi does not disclose “a second or third die, but Naka et al. does.” (Office Action at page 18). But Pennisi also does not teach the limitation in independent claims 1, 10, 20, and 24 of “a meniscus that originates substantially above the first die active first surface; and a substantially planar surface that is parallel planar to the first die active first surface”. Although Naka et al. may teach a second die, Naka also does not teach or suggest the limitations of the molding compound cap including the third surface as claimed. Because all the claim limitations are not taught in the cited references, withdrawal of the rejections is respectfully requested.

Claims 14-16 were also rejected under 35 USC § 103(a) as being unpatentable over Pennisi et al. in view of Iwabuchi. Applicant respectfully traverses the rejection and requests the Office to consider the following.

The Office Action tacitly admits that Pennisi does not disclose dynamic random access memory coupled to the die. But Pennisi also does not teach the limitation in independent claim 10 “a meniscus that originates substantially above the first die active first surface; and a substantially planar surface that is parallel planar to the first die active first surface”. The Office Action fails to construe Iwabuchi in this rejection and therefore nothing is asserted with respect to Iwabuchi. Applicant, however, has indicated the inadequacies of Iwabuchi in this Response. To wit, Iwabuchi also does not teach or suggest the limitations of the molding compound cap including the third surface as claimed. Because all the claim limitations are not taught in the cited references, withdrawal of the rejections is respectfully requested.

Claims 18 and 19 were also rejected under 35 USC § 103(a) as being unpatentable over Pennisi et al. in view of Iwabuchi and in further view of Naka et al. Applicant respectfully traverses the rejection and requests the Office to consider the following.


The Office Action admits that neither Pennisi nor Iwabuchi discloses “a second or third die, but Naka et al. does.” (Office Action at page 27). But neither Pennisi nor Iwabuchi teach the limitation in independent claim 10 of “a meniscus that originates substantially above the first die active first surface; and a substantially planar surface that is parallel planar to the first die active first surface”. Although Naka et al. may teach a second die, Naka also does not teach or suggest the limitations of the molding compound cap including the third surface as claimed. Because all the claim limitations are not taught in the cited references, withdrawal of the rejections is respectfully requested.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney, John Greaves at (801) 278-9171 to facilitate the prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,
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